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| APPLICATION NO.             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|----------------------|------------------|
| 09/865,323                  | 05/25/2001  | Uwe Vogt             | Mo-6303/LeA 34,646   | 2946             |
| 34047                       | 7590        | 11/26/2003           | EXAMINER             |                  |
| BAYER CHEMICALS CORPORATION |             |                      | EINSMANN, MARGARET V |                  |
| PATENT DEPARTMENT           |             |                      |                      |                  |
| 100 BAYER ROAD              |             |                      | ART UNIT             | PAPER NUMBER     |
| PITTSBURGH, PA 15205-9741   |             |                      | 1751                 |                  |

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                           |
|------------------------------|-------------------------------|---------------------------|
| <b>Office Action Summary</b> | Application No.<br>09/865,323 | Applicant(s)<br>VOGT, UWE |
|                              | Examiner<br>Margaret Einsmann | Art Unit<br>1751          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-21 is/are pending in the application.
  - 4a) Of the above claim(s) 4-9 and 12-21 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3, 10-11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

This application contains claims 4-9, 11-21 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The following rejection are maintained for the reasons of record. Arguments follow the rejections.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 10, 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 does not define the individual esters in the mixture. For a claim to be directed to a mixture, it needs to state the members of said mixture. Formula 1 does not exist since sulfur may not contain more than 6 bonds. If one reads the definitions of the variables, a mixture of esters of formula 1 encompasses a large variety of esters which are well known to exist, and which are not described in the specification. Accordingly, the metes and bounds of claim 1 cannot be determined.

The process recited in claim 1 will not result in the range of compounds as claimed for the following reasons:

If one reacts the mixture of the three alcohols with sulfonyl chloride ,one forms the product where  $a+b+c=3$ . The claimed formula states that  $a+b+c=2$ . Accordingly, all three of  $R^1$ ,  $R^2$  and  $R^3$  may not be present in the claimed product. Additionally since  $a,b$  or  $c$  may be 2, only one of  $R^1,R^2$  or  $R^3$  need be present. Applicant may state that the reactants as claimed in the process limitation will produce the claimed mixture. However, those reactants will produce a mixture of many esters as detailed above.

The structure of claim 1 contains a sulfur atom with 7 bonds, which is not a known state for sulfur. The examiner suggests that applicant write the claim by including all of the structures for the individual esters in the mixture.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 and 10-11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The description in the specification, including example 1, describes a process of forming a mixture of sulfuric acid esters wherein  $R^1$ ,  $R^2$  and  $R^3$  all are present, which is different from the mixture claimed wherein  $a+ b + c =2$ , meaning that not all three possible R groups are present on each individual ester in the mixture. Accordingly, since the claimed a, b and c are each 0,1

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or 2 (note integers are claimed) there is no description of forming the product as claimed wherein in each ester in the mixture,  $a + b + c = 2$ . Since  $a$ ,  $b$  and  $c$  are all present in the reaction mixture, none is equal to zero, resulting in the sulfur atom in at least some of the resultant claimed esters having at least 7 bonds, since there is no provision in the mixture as claimed for the ester wherein the  $R$  groups may be a fractional number. The mixture as claimed also provides for mixtures of esters wherein one of the  $R$  groups may be 2 and the others zero. For example, there may be two different  $R^1$  groups, and none of either  $R^2$  or  $R^3$ . That mixture is not ruled out by the process limitation, and is not enabled by the specification.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coffindaffer et al., US 6,335,312. Coffindaffer et al. discloses the production of mixtures of sulfuric esters from mixtures of C12 and C13 aliphatic alcohols and also the mixture of alkyl ethoxy sulfates having ethoxylation in the range of 5-9 moles of ethoxylation. (col 23 lines 38-47) In col 23, the production of the claimed mixtures of sulfuric esters where  $a=2$ , and  $b$  and  $c$  are each equal zero, and  $R^1$  is a mixture of aliphatic radicals having 1 to 30 carbon atoms is taught. Beginning in column 23 line 63, a mixture of C<sub>12</sub>

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and C<sub>13</sub> alcohols are sulfated, forming a mixture of sulfuric esters wherein one R<sup>1</sup> is equal to an aliphatic radical having 12 carbons and the second R<sup>1</sup> is a radical having 13 carbon atoms. Next Coffindaffer et al. discloses sulfating mixtures of C<sub>12</sub> and C<sub>13</sub> alcohol ethoxylate (col 24 lines 37 et seq.) The product is then a mixture of two sulfuric esters in which a and c are both 1 and b is zero. In the first ester, R<sup>1</sup> is C<sub>12</sub> and R<sup>3</sup> is ethylene oxide where p is an integer of 5 to 9 and in the second ester R<sup>1</sup> is C<sub>13</sub> and R<sup>3</sup> is an integer of 5 to 9.

Coffindaffer et al. differs from the claimed subject matter because the mixtures of esters. are not made by the process as claimed. However, the process as claimed does not produce the claimed subject matter since it results in a product wherein a+b+c=3, and in the claimed mixture a+b+c=2.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(e or b) as being anticipated by Coffindaffer.

Coffindaffer et al. discloses the production of mixtures of sulfuric esters from mixtures of C<sub>12</sub> and C<sub>13</sub> aliphatic alcohols and also the mixture of alkyl ethoxy sulfates having ethoxylation in the range of 5-9 moles of ethoxylation. (col 23 lines 38-47) In col 23, the production of the claimed mixtures of sulfuric esters where a=2, and b and c are each equal zero, and R<sup>1</sup> is a mixture of aliphatic radicals having 1 to 30 carbon atoms is taught. Beginning in column 23 line 63, a mixture of C<sub>12</sub> and C<sub>13</sub> alcohols are sulfated, forming a mixture of sulfuric esters wherein one R<sup>1</sup> is equal to an aliphatic radical having 12 carbons and the second R<sup>1</sup> is a radical having 13 carbon atoms. Next Coffindaffer et al. discloses sulfating mixtures of C<sub>12</sub> and C<sub>13</sub> alcohol ethoxylate (col 24 lines 37 et seq.) The product is then a mixture of two sulfuric esters in which a and c are both 1 and b is zero. In the first ester, R<sup>1</sup> is C<sub>12</sub> and R<sup>3</sup> is ethylene oxide where p is an integer of 5 to 9 and in the second ester R<sup>1</sup> is C<sub>13</sub> and R<sup>3</sup> is an integer of 5 to 9.

Accordingly, Coffindaffer et al. discloses several mixtures within the scope of the claimed sulfuric ester mixtures as claimed when a+b+c=2.

Applicant cannot rely upon the foreign priority papers to overcome this rejection under 102(b) because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Scalia. Scalia disclosed the mixture of sodium laureth sulphate and myreth sulfate. See Table 1 on page 869. In the first compound, R<sup>1</sup> is C<sub>12</sub> and in the second R<sup>1</sup> is C<sub>14</sub>. In both compounds, R<sup>3</sup> is an ethylene oxide polymer. The examiner notes that Scalia discloses

the sodium salts of said esters. Noting the only example in applicant's specification, the claimed sulfuric esters are neutralized with sodium hydroxide immediately after formation, resulting in the sodium salts of the mixed esters.

***Response to Arguments***

Applicant's arguments regarding the rejection of claims 1-3, 10 and 11 under 35 USC 112, first and second paragraphs are not persuasive for the following reasons.

Applicant states that the claim 1 recites the individual esters characterized by a,b, or c, all of which can be present at the same time (page 11 of response of 9/10/03). However, applicant is incorrect because as claimed in claim 1, a, b and c cannot be present at the same time since  $a+b+c=2$  and a or b or c may be 2. Also in the instance when a or b or c is 2, or where two of a and b are 1 (which are the only possible combinations if  $a+b+c=2$ ) then the process of obtaining the mixture cannot be reacting sulfonyl chloride with a mixture of the alcohols, R<sub>1</sub>OH, R<sub>2</sub>OH and R<sub>3</sub>OH as claimed because at least one of the alcohols will necessarily not be present. Since all of a,b and c may not be present, how can the mixture **ever** be made by reacting sulfonyl chloride with the mixture of the **three** alcohols as claimed? If applicant indeed reacts sulfonyl chloride with the mixture of the three alcohols as claimed, and a, b and c are all integers, then  $a+b+c$  cannot be 2 . Accordingly claim 1 is ambiguous and confusing as written.

Applicant states that where one of the R groups is equal to 2, the skilled artisan can readily make the mixture. However, while that may be true, the method claimed in claim 1, reacting sulfonyl chloride with the three alcohol, R<sub>1</sub>OH, R<sub>2</sub>OH and R<sub>3</sub>OH

would not result in that mixture. Using the method claimed at the end of claim 1 does not result in the ester wherein  $a+b+c+2$ .

Applicant's arguments regarding the 102(e) of claims 1-3 over Coffindaffer et al. are not persuasive for the following reasons. Applicant states that a fair reading of the reference does not show a description in identical terms or terms that would have reposed the same invention in the public domain. Applicant admits that the preparation of mid-chain branched C12,13 and 14 sodium alcohol sulfate, alcohol ethoxylate and sodium alcohol is taught. Then he states that the rejection is based on hindsight reconstruction. That statement is not understood when the examiner has pointed to the mixture as claimed and applicant agrees that such a mixture is present.

Applicant's arguments regarding the 103(a) rejection over Coffindaffer et al. are not persuasive for the following reasons. Applicant states that Coffindaffer's compositions contain a surfactant system comprising branched surfactant mixtures comprising a mid-chain branched and linear surfactant compounds and two other components. Applicant states that the examiner has not provided a basis for modifying Coffindaffer to the claims. Applicant has not stated and the examiner does not understand how Coffindaffer needs to be modified. The surfactants in the surfactant mixture of Coffindaffer are sulfuric acid esters and salts thereof, thus reading on the mixture as claimed.

Applicant's arguments regarding the rejection claims 1-3 under 102(b) as being anticipated by Scalia are not persuasive. Applicant states that the rejection is based on reconstruction of Scalia based on applicant's specification. On page 14 of the response of 9/10/03, applicant quotes the examiner's rejection where it is pointed out in detail where Scalia discloses the mixture of sulfuric acid esters as claimed. Accordingly it is not understood how this constitutes hindsight reconstruction.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 703-308-3826. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

*Margaret Einsmann*  
Margaret Einsmann  
Primary Examiner  
Art Unit 1751